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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
09/044,163	03/19/98	SHIMOKAWA	T 500.36133X00

020457 TM02/0828
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EXAMINER

LE, U

ART UNIT	PAPER NUMBER
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2171

DATE MAILED:

08/28/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.

09/044,163

Applicant(s)

Shimokawa
Simokawa et al

Examiner

Uyen Le

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Jun 7, 2001
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12, 14, and 16-22 is/are pending in the application.
- 4a) Of the above, claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12, 14, and 16-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- a) ☐ All b) ☐ Some* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- *See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

- 15) ☒ Notice of References Cited (PTO-892) 18) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 19) ☐ Notice of Informal Patent Application (PTO-152)
- 17) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____ 20) ☐ Other:

DETAILED ACTION

Answers to Amendment

1. Claims 1, 4, 7, 12, 14, 19, 20 have been amended merely to clarify the claim language.
2. Applicant's arguments have been fully considered but they are not persuasive.
 - Applicant argues that "a plurality of data areas being loaded data generated in time series during certain time is not related to a plurality of tables or data that is changeable". In response, since the claimed plurality of data areas is being managed by the time series (see lines 4-5 of claim 1), clearly it reads on a plurality of tables storing changeable data in the system of Gallant (see Figures 4-6).
 - Applicant argues that "bookmark information includes a time at which data is loaded and is not merely a code field and key field used to identify the state of the data as asserted by the examiner". In response, claim 1, lines 6-7 recite "bookmark information areas respectively provided at predetermined locations in said plurality of data areas". Since the bookmark information areas are provided at predetermined locations, they merely read on the code field and key field identifying the state of the data in the data structure of Gallant (see column 2, lines 21-59).
 - Applicant argues that Yazaki does not disclose or suggest the limitation of bookmark information areas as claimed. In response, Yazaki was cited merely to show that it is well known in the art to keep track of time-ordered data items.

Therefore, it would have been obvious to one of ordinary skill in the art to include in a key field of the data structure taught by Gallant information indicative of a time at which data is loaded in a time series data piece in each table in order to allow searching of time-ordered data in a database.

Applicant presents no further argument regarding claims 2-12, 14-20. For all the reasons discussed above, rejection to claims 1-12, 14, 16-20 is maintained using the references of record.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 21, 22 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. It is not understood how the oldest data could be "most oldest". It is not clear how the decision of oldest is made "based on a retrieval request requesting data of time series between a first time and a second time". It is not clear how the seeking is done. It seems that reading is performed although the segments have the status of loading contrary to what the specification describes at pages 12-13.

Rejection of claims 21, 22 is applied as best understood in light of the rejection under 35 U.S.C. 112, second paragraph discussed above.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-12, 14, 16-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gallant (US 4,648,036) of record, in view of Yazaki et al (US 5,623,639) of record.

Regarding claim 1, the claimed data structure comprising a plurality of data areas, each of said plurality of data areas being loaded data generated in time series during a certain time merely reads on the fact that a plurality of tables store changeable data in the system of Gallant (see Figures 4-6). Furthermore, it is well known in the art as shown by Yazaki to manage time series data (see the abstract). Since the database of Gallant comprises changeable entries (see column 2, lines 21-24), it would have been obvious to one of ordinary skill in the art to store them as time series in order to allow manipulation using time series as taught by Yazaki. The claimed "the plurality of data areas being managed by time series" merely reads on the fact that data is time-stamped in time series. The claimed "bookmark information areas each having a pair of bookmark information indicative of time and state of the data" merely reads on the fact that a code field and key fields are used to identify the state of the data in the data structure of Gallant (see column 2, lines 21-59). The claimed online state is indicated by the code field being set to a first value. The claimed loading state is indicated by the code field being set to a second value. Gallant explicitly shows that the key fields

contain relevant search parameters for a given table defined by a user (see column 4, lines 2-6). Furthermore, it is well known in the art to keep track of time-ordered data items as shown by Yazaki. Therefore, it would have been obvious to one of ordinary skill in the art to include in a key field of the data structure taught by Gallant information indicative of a time at which data is loaded in a time series data piece in each table in order to allow searching of time-ordered data in a database.

Claim 4 differs from claim 1 only by reciting data pieces loaded at "predetermined locations" and "predetermined" bookmark information areas. Clearly storing data in a database requires predetermined location for storage. The claimed predetermined bookmark areas merely read on the location of a code and key fields storing status information (See Figure 2).

Claims 2, 5 merely recite the well known fact that no data storage has unlimited space and that bookmark indicators can be read consecutively. Clearly, since data is stored in consecutive tables in a database, the bookmark indicators are also read consecutively (see Figures 2, 4-6).

Regarding claims 3, 6, Gallant disclosed the claimed state transition information when Gallant shows the update, non-update and post-update states. The claimed online state is indicated by the code field being set to a first value. The claimed loading state is indicated by the code field being set to a second value and the claimed empty state is indicated by the code field being set to a third value (see the abstract, column 2, lines 21-59).

Claim 7 corresponds to a method utilizing the data structure recited in claim 1

with the added limitation of providing also a value indicating a state in which data is empty. Therefore, is rejected for the same reasons discussed in claims 1 and 3 above.

Claims 8, 9 merely read on responding to data retrieval request by reading the code field and key field in the method of Gallant and providing the data requested if such data is available.

Claim 10 merely reads on responding to data deletion request by reading the code field and key field in the method taught by Gallant.

Claim 11 adds the limitation of storing data pieces for a predetermined time and adding a bookmark identifying the collection in the storage area. It would have been obvious to one of ordinary skill in the art to do so in order to identify a collection of data by the same bookmark for easy retrieval in the method taught by Gallant.

Regarding claim 12, Gallant discloses a database management method including adding bookmark information indicating state transition when Gallant shows that the code field value is indicative of the state of the data (see column 2, lines 21-59). Gallant explicitly shows that key fields are used to add relevant search parameters (see column 4, lines 2-6). The claimed start area information having a flag and an address area merely read on key fields taught by Gallant. Furthermore, Yazaki explicitly shows the concept of a time-series database (see the abstract). The claimed "each of said plurality of data areas being loaded with data generated in time series during a certain time, the plurality of data areas being managed by time series" merely reads on the fact that since the database of Gallant comprises changeable entries of the database such as entry, page, record (see column 2, lines 21-23), it would have been obvious to one of

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ordinary skill in the art to include time stamping changes and loading data areas with data generated in time series in order to facilitate subsequent time series management as taught by Yazaki.

Regarding claim 14, Gallant discloses a database managing method including reading bookmark information and writing bookmark information when Gallant shows that the code field values change according to the state of the data (see the abstract, column 2, lines 21-59). Claim 14, lines 3-9 merely reads on the fact that after deletion, the code field is set to a third value. Lines 10-13 merely reads on the fact that data is loaded to the empty areas detected. The claimed "each of said plurality of data areas being loaded with data generated in time series during a certain time, the plurality of data areas being managed by time series" merely reads on the fact that since the database of Gallant comprises changeable entries of the database such as entry, page, record (see column 2, lines 21-23), it would have been obvious to one of ordinary skill in the art to include time stamping changes and loading data areas with data generated in time series in order to facilitate subsequent time series management as taught by Yazaki. The claimed "writing bookmark information having bookmark indicative of a time at which data is loaded in a time series data piece for said predetermined time and state transition information indicative of an online state of said time series data piece for said predetermined time in said predetermined bookmark area" merely reads on the fact that the code field is set to a first value indicating that data is available.

Claim 16, 17, 18, 19 are rejected for the same reasons discussed respectively in claims 8, 9, 10, 11 above.

Regarding claim 20, Gallant discloses a database managing system (see the abstract). The claimed processor having a memory for storing data for a certain time merely reads on the fact that the system of Gallant is computerized and stores a changeable database (see Figure 1). Furthermore, Yazaki teaches managing time series data (see the abstract). Clearly, the memory is managed by time series. Since time series would facilitate memory management as shown by Yazaki, it would have been obvious to one of ordinary skill in the art to implement the database of Gallant as a time-series database. The claimed clock for reading times at which data is applied is clearly present in the system of Gallant in order to monitor changeable entries in the database. The claimed database is met by element 130 of Gallant. The claimed bookmark information is met by the code field 220 and key fields 210 shown by Gallant. The claimed online, loading and empty state merely read on the first, second and third value of the code field respectively indicating whether data is available or is being updated or had been deleted.

5. Claims 21-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gallant (US 4,648,036) of record, in view of Yazaki et al (US 5,623,639) of record, further in view of Beier et al (US 5,933,820).

Regarding claim 21, Gallant discloses a database managing method for managing data (see the abstract). The claimed pointing to a segment storing the oldest data in time series based on a retrieval request for data of time series between a first time and a second time merely reads on the fact that the method of Gallant allows

storing a changeable database (see Figure 1). Furthermore, Yazaki teaches managing time series data (see the abstract). Beier teaches pointing to segments of a database (see the abstract). The claimed "acquiring time information from a bookmark residing at a predetermined position of said segment to obtain status information to determine whether said status information indicates a state of loading of data in said database" merely reads on the fact that bookmark information of the code field 220 and key fields 210 are used to determine the status of the data as shown by Gallant. The claimed steps of seeking succeeding segments and reading data from said segments merely read on the fact that data is selected and read according to user's request. It would have been obvious to one of ordinary skill in the art to include the steps of seeking succeeding segments and reading data while implementing the method taught by Gallant as modified by Yazaki and Beier in order to retrieve data according to user's request of time series between a first and second time.

Claim 22 corresponds to a system for method claim 21, thus is rejected for the same reasons stated in claim 21 above.

Conclusion

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within

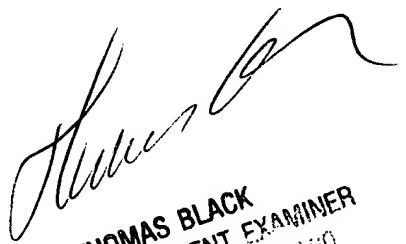
TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Uyen T Le whose telephone number is 703-305-4134. The examiner can normally be reached on M-T 7:00-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Black can be reached on 305-9707. The fax phone number for the organization where this application or proceeding is assigned is 308-9051 for all communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 305-9000.

UL
August 22, 2001


THOMAS BLACK
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100